DOCUMENT RESUME

ED 218 459 CE 032 200

AUTHOR Pruitt, Ann K., Comp.
TITLE Employer-Sponsored Instruction: Focus on Ohio Business and Industry.
INSTITUTION Ohio Board of Regents, Columbus.
SPONS AGENCY Kellogg Foundation, Battle Creek, Mich.
PUB DATE Feb 82
NOTE 64p.; This report was prepared as part of the Education Commission of the States Lifelong Learning Project.

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Adult Education; Adult Vocational Education; *Educational Cooperation; Educational Research; *Higher Education; *Industrial Training; Industry; *Inplant Programs; *Nonschool Educational Programs; On the Job Training; School Business Relationship; School Role; Staff Development
IDENTIFIERS Lifelong Learning Project; *Ohio

ABSTRACT

A 1981 study undertaken by the Ohio Board of Regents sought to learn more about the role of private sector organizations, particularly business and industry, in the training and education of adults in Ohio. Data were collected from two sources--a review of literature on employer-sponsored instruction and a survey of manufacturing and nonmanufacturing firms in Ohio. To provide a context for the study, employer-sponsored instruction was examined from a national and state (Ohio) perspective. It was found that employer-sponsored instructional programs are less pervasive than it is believed, it is provided to a rather small segment of the total adult workforce, many companies meet only a small portion of their human resource development needs through their own instructional programs, colleges and companies often work at cross purposes toward similar training and education objectives, and Ohio's colleges and universities can play a more significant role in retraining and upgrading of the adult workforce. It was suggested that the work-education relationship could be strengthened through access to higher education, a cost effective higher education system, quality programs, and cooperation with other organizations toward the improvement of Ohio's economy. (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

OHIO
BOARD
OF
REGENTS

3600 State Office Tower
30 East Broad Street
Columbus, Ohio 43215

Telephone: (614) 466-6000

ED218459

Employer - Sponsored Instruction:

Focus on Ohio Business and Industry

February, 1982

Funded by a Grant from
the W. K. Kellogg Foundation
through the Education
Commission of the States

CE032200

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Patricia A. Skinner

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

FOREWORD

Economic revitalization in Ohio depends in part on the productive capacity of the workforce developed through training in entry level skills as well as the retraining and upgrading of those adults already in the workforce. Ohio's colleges and universities have for many years provided quality instruction for entry level workers, but have only recently begun to play a more significant role in the continued training and development of adult workers.

Business and industrial organizations are among the nation's largest postsecondary education providers in terms of number of people served and amounts expended for instruction. Yet very little is known about employer-sponsored instructional programs and the role these programs play in the overall continuing education of adults. The Ohio Board of Regents undertook this study of employer-sponsored instruction as part of a broader assessment of ways in which relationships between the institutions of work and education could be strengthened. Underlying this study are two basic questions: To what extent does employer-sponsored instruction serve the continuing education needs of the adult workforce? How can business/industry and higher education institutions work cooperatively to ensure that these training needs are met?

This report includes a profile of employer-sponsored instruction at the national level and provides a focus on Ohio which was derived from a survey of selected manufacturing and nonmanufacturing firms in the state. Conclusions and implications based on the findings are presented as well as suggestions for strengthening work-education relationships in Ohio.

The report has been prepared as part of the Education Commission of the States Lifelong Learning Project funded in part by the W. K. Kellogg Foundation and the Comprehensive Education and Training Act (CETA). The Ohio Board of Regents expresses appreciation to more than 800 representatives of business and industrial organizations in Ohio who provided the survey information, and to the many college and university personnel who gathered the data in their service areas. The Board also wishes to acknowledge the assistance of Ann K. Pruitt, who compiled this report and to Board staff members who provided direction for the study, particularly Max J. Lerner, Patricia A. Skinner, and Joseph P. Arnold.

Edward Q. Moulton, Chancellor

TABLE OF CONTENTS

	Page
Introduction	1
A National Perspective	4
Scope of Employer-Sponsored Instruction	6
Nature of Employer-Sponsored Instruction	8
Toward Increased Cooperation	11
Summary	14
Focus on Ohio	16
Findings: Employer-Sponsored Instruction in Ohio	17
Profile of Responding Organizations	17
Scope of Employer-Sponsored Instruction	19
Nature of Employer-Sponsored Instruction	22
Toward Increased Cooperation	27
Summary	33
Conclusions and Implications	35
Strengthening Work-Education Relationships	44
Notes	55
References	57

INTRODUCTION

It is increasingly evident that noncollegiate education and training programs,[1] particularly those sponsored by corporations and trade and professional associations, are firmly established in this country--and are growing. This growth is occurring at a time of nationally declining profits for business and industry and declining enrollments in the traditional education system. Growth in noncollegiate instruction signals both a threat and a challenge for colleges and universities. The threat is obvious; the challenge more elusive, as illustrated in the following:

- Of the approximately 64 million (headcount) participants in postsecondary education, roughly 18 million (28%) are enrolled in schools and colleges. The balance (46 million or 72%) are learning through non-school organizations. (Peterson, 1979)
- Although the figures vary, the American Society for Training and Development (ASTD) estimates that $30 billion per year is spent on corporate sponsored instruction--almost the amount expended for all of public higher education. (Maeroff, 1981)
- In 1980, more than 2,000 courses offered at 138 corporate organizations were recognized for academic credit by the Program on Non-Collegiate Sponsored Instruction, American Council on Education (Noble, 1981). This is an increase from 538 courses offered by 46 organizations in 1978 (Settle, 1981).

Trends like these have stimulated interest on the part of federal legislators to rethink policy for every level of the educational system (ASTD National Report, February 6, 1981). Thus, it is important for state and institutional policymakers to examine the role of both public and private sector organizations in the

continuing education of adults, particularly as it relates to the economic development of a state or region.

Much has been written about "lifelong learning" or the continuing education of adults. Only recently has attention been focused on the continuing development of adults in the workforce which includes the counseling, training, and retraining of employees. Although much of this training has been done by employers, relatively little is known about employer-sponsored instructional programs. In order to determine how the role of postsecondary institutions in the continuing education of the workforce could be strengthened, it is necessary to learn more about programs that currently exist and determine where there might be additional opportunities for cooperation.

The Ohio Board of Regents undertook this study during 1981 in an attempt to learn more about the role of private sector organizations, particularly business and industry, in the training and education of adults in Ohio. The purpose of the study was twofold: (1) to determine the nature and scope of formal training activities in business and industry, and (2) to identify ways in which stronger cooperative relations might be fostered between higher education and business and industrial organizations in the state. Data for this report were collected from two sources, a review of literature on employer-sponsored instruction and a survey of manufacturing and nonmanufacturing firms in Ohio. The findings of this study are intended for use by policymakers at both the state and institutional levels.

To provide a context for this study, employer-sponsored instruction will first be examined from a national perspective. Within that context, the report will then focus on employer-sponsored instruction in Ohio. Conclusions and implications for Ohio's higher education system will be based on a synthesis of national and state findings. Finally, suggestions will be made on ways in which work-education relationships in Ohio can be strengthened.

A NATIONAL PERSPECTIVE

Training America's workforce has long been an issue of both public and private concern. Much is known about the education-work relationship from a public-policy perspective. Higher education as it exists today has been significantly shaped by public policy related to vocational and technical education. Corporate education, on the other hand, has been considered a matter of private policy, not open to public scrutiny. Thus, relatively little is known about the impact of private policy on the work-education relationship. But, through the efforts of The Conference Board in New York City, the Institute for Work and Learning in Washington, D.C., and others, we are beginning to learn more about the phenomenon of employer-sponsored instruction.

Employer-sponsored instruction is not a new phenomenon. Corporation "schools" began at the turn of the century and were formally recognized in 1913 with the founding of the National Association of Corporation Schools. Early members of that association felt that a corporate response was needed to meet the special needs of immigrant workers and to make up for deficiencies in the traditional education system. Corporate instruction gained impetus during World War II when an influx of untrained and inexperienced men and women entered the workforce and has been expanding in both scope and nature since that time.

Corporate training programs evolved in response to internal needs. These needs have changed significantly in recent decades

due primarily to changes in technology, management philosophy, worker attitudes, and external influences. Initially, on-the-job training for technicians was the only type of training in business/industrial organizations. This was consistent with an assembly-line technology and a "scientific" management philosophy built on the assumption that "a productive worker was a happy worker." Productivity was the bottom line, and hard work was the key to achieving the "American Dream," concepts understood by both labor and management. Large numbers of unskilled workers were hired and trained to perform specific tasks in the most efficient manner possible.

Worker demands for improved quality of work life, accompanied by increased unionization and more sophisticated production technology, influenced the shift to a "human relations" management philosophy which assumed that "a happy worker was a productive worker." Worker satisfaction was thought to be the key to increased production. Negotiated contracts between management and labor, increased fringe benefits, and experimental methods to "enrich" and "enlarge" tasks were all attempts to increase worker satisfaction. People were promoted from the ranks for supervisory and management positions with little prior training or development of interpersonal and problem-solving skills. Training became a vehicle for strengthening productivity on the one hand and an added incentive for worker commitment on the other. It was thought by many to be a frivolous expenditure, because it was one of the few corporate programs which continued and expanded without regard to cost or measurable outcome.

More recently, economic, legal, and social concerns regarding equity, unemployment, and occupational imbalance have compounded internal problems related to productivity and worker satisfaction. These concerns have translated to a need for cost-effective training programs designed to:

- Orient employees to company style, policies, procedures;
- Up-date employees for rapidly changing technology;
- Sustain employee vitality (motivation, personal/professional growth);
- Avoid the cost of travel and released time for outside training;
- Transfer newly acquired skills directly to practice;
- Fulfill legal and social responsibility to minorities and disadvantaged. (Branscomb and Gilmore, 1975)

Companies are now beginning to view their employees as "resources" and training programs as long-term corporate "investments."

Companies first sought to meet their training needs through the traditional education system. But they found that many trade schools, colleges, and universities were unprepared (and often unwilling) to provide education and training tailored specifically to corporate needs. Thus, they began developing their own programs and in many cases have created large training departments and elaborate instructional facilities. Employer-sponsored instruction is broad in scope and diverse in nature as illustrated in the following summary.

Scope of Employer-Sponsored Instruction

Seymour Lusterman (1977) conducted a national study to determine the aims, scope, and character of corporate training and

education. His study provided one of the first comprehensive overviews of employer-sponsored instruction at the national level.[2]

In 1975, when Lusterman conducted his study, there were 4.4 million private companies in the United States. The 7,600 companies in the 500+ employment-size classification employed a total of 32 million people, or one-half of the total private employment in the United States. Lusterman's findings indicated that 75% of these companies provided in-house training, serving approximately 4.3 million employees. He found that the commitment to training and development was closely linked to company research and development activities in order to be up to date on new technology. Of an estimated $2 billion expended by the large corporations for instructional costs, 80% was spent on in-house training. The median expenditure per employee was $16 (ranged from $2 to more than $100), with financial institutions spending the most and manufacturing firms spending the least per employee. An estimated 45,000 full-time staff were employed to design and administer in-house training.

Much of Lusterman's data was skewed by the "corporate giants"--the 650 companies employing more than 10,000 persons. These companies accounted for 76% of the total training expenditures and 70% of the full-time training and development staff. American Telephone and Telegraph is a case in point. The nation's largest employer, this company invests approximately $1.1 billion per year in instructional costs associated with the training and development of over 1 million employees (Maeroff, 1981). Proportionate

investments are made by most of the largest companies on the Fortune 500 list, with nonmanufacturing companies spending almost three times as much per employee as manufacturing firms (Peterfreund, 1976). Company investments in instructional programs cover a wide range of foci--from company orientation of new employees to rather esoteric institutes for chief executive officers.

Nature of Employer-Sponsored Instruction

Employer-sponsored instructional programs vary in content and format. The goals of these instructional programs are broadly defined as follows:

- to accommodate the growth and turnover in personnel;
- to meet education and training needs created by changes in the knowledge and skills required by, or available to, a company and its employees;
- to improve the skills and performance of present employees in their present jobs. (Lusterman, 1977)

These goals are accomplished through training, education, and development programs.

Training typically includes technical or manual skills developed through repetition and is directed primarily to rank-and-file workers. Training programs are usually well defined, with measurable results. Course credits, diplomas, or certificates are of less concern to the employer than skills that can be immediately transferred to a job. Three phases of training have been identified by Peterfreund (1976):

- initial training--orientation to company policies, methods, and equipment; on-the-job training;
- retraining--upgrading skills for changes in technology on present job;

- replacement training--acquisition of new skills for job changes resulting from turnover and promotion.

Education programs focus on development of intellectual skills and the transmission of knowledge. These programs are generally conducted off the job through company-sponsored courses, tuition assistance programs, college and university courses, or special seminars and workshops offered by trade and professional associations and proprietary institutions. Types of courses range from basic education (mathematics, communication skills, reading) to graduate and postgraduate level science, engineering, and management courses.

Development programs embrace both training and education. They focus generally on the strengthening of interpersonal skills, self-awareness, career development, attitude changes, and character building. Seminars and workshops are the instructional formats used most often for these programs, whether offered on-site or in another location. Many companies use outside consultants and/or commercially prepared motivational materials for their development programs.

There are two major categories of employer-sponsored instruction: on-the-job training and off-the-job training. On-the-job training refers to orientation and specialized training in machine operations or work methods provided at the job site by peers or supervisors. Off-the-job training is achieved through three basic modes: company courses, tuition assistance plans, and courses offered by educational vendors outside the company.

In the past corporate instructional programs were directed primarily at on-the-job training. Manual workers, however, have received a disproportionately smaller share of formal training than have employees at other levels of the company (Smith, 1980). Over the years, increasing emphasis has been placed on education and development activities, or "human resource development," which is evidenced by the prevalence of tuition assistance plans and the increasing number of companies providing credit courses toward baccalaureate and advanced degrees. One explanation for changes in training emphasis might be found in the shifts in occupational trends. There has been a steady decline in the last two decades in available jobs for unskilled and semiskilled operatives and laborers. At the same time, there has been a steady increase in jobs available for skilled trades and crafts workers, high level technicians, mid-management and semiprofessionals (Harris and Crede, 1977). The cleavage between workers without jobs and jobs without workers continues to widen.

As a mode of employer-sponsored instruction, tuition assistance is almost as widely used as on-the-job training. Tuition assistance programs are varied and often include some form of tuition reimbursement, educational leave, training fund plans, or scholarship and loan fund plans (Smith, 1980). Eighty-nine percent of the companies sampled by Lusterman (1977) had tuition assistance plans which accounted for $225 million (11%) of their total instructional costs. Large companies paid less in tuition aid than small ones, because they provided more of their own training in house. Overall, it was estimated that fewer than 4%

of the employees took advantage of tuition benefits and those who did were primarily professional and managerial personnel. Barton (1981) estimated that millions of dollars worth of tuition aid to employees goes unused each year.

Until recent years, most off-the-job training was considered to be the domain of other educational vendors, particularly colleges and universities. Lynton (1981) claimed that the more advanced the level of training need, the more likely the employee would seek training through existing college and university programs. But many large companies have begun designing and conducting courses tailored to their own needs. Many companies have sought degree credit approval for these courses through the American Council on Education's Program on Non-Collegiate Sponsored Instruction. Some companies have sought regional accreditation for their training programs which would allow them to be degree-granting institutions (e.g., Wang Institute; Arthur D. Little Company). Still others have formed new types of contractual arrangements with external degree centers and colleges and universities (e.g., New York City Bell/Pace University, Master of Business Administration degree; and INA Corporation/University of Pennsylvania, baccalaureate degree). Cooperative arrangements such as these require a concerted effort on the part of both parties to overcome some of the barriers which existed in the past.

Toward Increased Cooperation

It appears that colleges and corporations have been on divergent paths with regard to continuing education of the

workforce. Common objectives have often been at cross purposes because of a general lack of understanding between these organizations. Formal cooperative arrangements between corporations and higher education institutions have been limited in part by a so-called "credibility gap" (Settle, 1981). Pedagogical, attitudinal, and organizational/procedural differences have contributed to a reluctance on the part of both parties to work together. The traditional education system has been blamed for deficiencies in the preparation of the workforce, primarily in the areas of language, computational, communication, interpersonal, and problem-solving skills (Lusterman, 1977). Colleges and universities have also been criticized for inconsistencies between mission statements and outreach activities, lack of measurable performance outcomes, insensitivity to the level of experience of their adult clientele, and inflexibility in design and format of instruction (Settle, 1981; Lynton, 1981). At the same time, educational institutions have been reluctant to respond too vigorously to the corporate world in order to provide general education for a broader set of interests. But the climate for cooperation is changing.

College and university faculty are a primary source of new knowledge and techniques, a fact recognized by the corporate world. To be competitive, corporations need to be on the cutting edge of new technology and have made a commitment to the training, education, and development of their employees. Yet, a downturn in the economy has made it necessary for employers to

carefully analyze the cost effectiveness of their research and development activities as well as their training programs. This analysis has resulted in the following trends:

- employees are being viewed as resources and their overall development is being treated as a corporate investment;
- there is increasing concern with human resource development--interpersonal relationships, human behavior, teamwork, organizational development--to solve problems of productivity and worker satisfaction;
- instructional programs are being linked more closely with overall corporate planning;
- instructional programs are being tailored more specifically to the needs of departments and/or individuals within a corporation;
- there is increasing concern with the cost effectiveness of in-house instructional programs, based on measurable outcomes in terms of productivity and worker satisfaction.

Similarly, educational institutions are demonstrating a willingness to meet the needs of business and industry by:

- providing quality, cost-effective programs tailored more specifically to business/industry needs;
- becoming more flexible and adaptable in course scheduling, admissions and registration procedures;
- using teaching techniques that have greater transferability from the classroom to the job;
- speaking more directly to the career development needs of adult students.

Lynton (1981) suggested that company training needs are often predictable in advance and could be included in the long-range planning of both the company and a local college. But this would only be possible through increased cooperation between higher education institutions and business and industrial organizations.

Wilson (1980) cited several interrelated elements essential to achieving effective work-education relationships. First, both parties (colleges and companies) must adopt an attitude of cooperation, feeling that there are benefits for both to derive from this kind of relationship. Second, there must be some kind of need, problem, issue, or question to be addressed by both parties. Third, one will need to reach out to the other to make the first contact. Fourth, both parties will need to establish a working relationship that will achieve immediate outcomes (e.g., developing procedures or strategies, or solving a problem). Finally, there must be a mutual assessment and evaluation of the product of the relationship as well as the relationship itself. Successful cooperative relationships should lead to better understanding of the goals and problems of both types of organizations, more efficient and effective communication, planning and implementation of programs, and thus, greater productivity by the staffs of both colleges and companies.

Summary

The review of employer-sponsored instruction from a national perspective has provided some insight into the scope and nature of training activities in business and industry. Data indicated that considerable in-house training takes place in large companies (those employing more than 500 workers). Instructional programs ranged from company-specific, on-the-job training to credit courses for baccalaureate and advanced degrees. Increased emphasis on training for mid-level occupations, as well as the prevalence of

tuition assistance plans, indicates there might be an increased role for higher education institutions in the in-house training of employees. Recent trends indicate that the climate for cooperation is improving and that companies as well as colleges and universities have something to gain by mutual cooperation.

FOCUS ON OHIO

Ohio, like other Great Lakes states, has experienced declining employment in its large steel, rubber, machinery, and transportation industries (Battelle, 1981). Blue collar workers in particular have been hard hit by the state's average 9.5% unemployment rate.[3] Chronic unemployment has had the most serious economic impact on those areas of the state where heavy industry is concentrated. In those areas, many of the unemployed lack skills that are transferable to other occupations. This problem is further exacerbated by the fact that new or expanding companies are reluctant to locate plants in areas with a large semiskilled or unskilled labor pool (Minshall, 1980; Dobyns, 1981).

Training and education, whether provided by public or private sector organizations, are key to the adaptability and transferability of occupational skills. Much is known about the scope and nature of occupationally-related training and education provided by postsecondary education institutions in Ohio. Little is known, however, about instructional programs conducted by Ohio's private sector organizations, especially those programs which are employer sponsored.

In order to gain information on the nature and scope of employer-sponsored instructional programs, the Ohio Board of Regents surveyed selected manufacturing and nonmanufacturing firms in Ohio. The survey was administered in early 1981 to approximately 1700 firms employing more than 250 workers. The

survey instrument included items related to size of training effort, type and format of instructional programs, type and degree of cooperation existing between the firm and Ohio post-secondary institutions, and an indication of the training needs that could be discussed with a college/university official. What follows is a summary report of the findings.[4]

Findings: Employer-Sponsored Instruction in Ohio

Census data from 1979 revealed there were 201,238 business/industrial establishments in Ohio, employing more than 3.8 million persons. Ninety-two percent of these establishments were manufacturing firms; 99.6% were classified as small companies which employ less than 500 workers.[5] Collectively, these small companies employed almost three-fourths of Ohio's total workforce.

The findings of this study are based on 758 usable responses. While this represents less than 1% of all business/industrial establishments in Ohio, the figure becomes more significant when analyzed in terms of employment-size classification of firms. The 370 responses received from large companies (500+ employment-size classification) represented 47% of the total number of large establishments in Ohio.[6]

Profile of Responding Organizations

Questionnaires were completed by a variety of company officials--from presidents to training officers. Companies ranged in size from three employees to over 10,000, with the largest number of responses coming from companies in the 250-499

employment-size classification, which for purposes of this study is considered a small organization. Fifty-one percent of the responses came from small companies; three-fourths of the responses came from manufacturing firms.

Manufacturing Firms. Manufacturers of machinery and related products represented the largest group of respondents among manufacturing firms (124), followed by producers of fabricated metal (70), transportation-related (57), and primary metal products (56). Firms employing 250-499 people were the most strongly represented among these respondents, although there was almost equal distribution when clustered into small (52%) and large (48%) companies.

Nonmanufacturing Firms. Among nonmanufacturing firms the largest number of responses came from financial organizations (53), followed by wholesale/retail trade (37), and transportation/utility (36) organizations. In terms of size classification, the largest number of responses came from those firms employing 1,000-9,999 workers.

Companies With Formal Training Programs. Sixty-one percent (462) of the responding firms had formal training programs. Almost three-fourths of these companies were manufacturing firms; 61% of them employed more than 500 persons. There were more large manufacturing companies with formal training programs than any other group in this category.

Companies Without Formal Training Programs. Thirty-nine percent (296) of all companies responding did not have formal training programs. Seventy percent (207) of these companies

were small; 78% (230) were manufacturing firms. There were more small manufacturing firms without formal training programs than any other group in this category.

Scope of Employer-Sponsored Instruction

Indicators of size and location of training efforts were used to determine the scope of employer-sponsored training in Ohio. Data indicated that a larger proportion of the firms represented in the sample had formal training programs than did not. Of the 758 responding firms, 462 (61%) had formal training programs.

Table I illustrates that more manufacturing firms than nonmanufacturing firms and more large companies than small companies had formal training programs. Over three-fourths of all large organizations in the sample had formal training programs; over half of all small companies did not have formal training programs.

Approximately three-fourths of all companies with formal training programs, whether large or small in size, were manufacturing firms. Seventy percent of the firms with formal training were in heavy industry, e.g., manufacturers of rubber, metal (primary and fabricated), machinery, electrical/electronic, and transportation products. Among nonmanufacturing firms, 87% of the training programs were in the service industry which included finance, insurance, wholesale/retail trade, transportation, and utility companies.

Companies without formal training programs were more widely dispersed among the Standard Industrial Classifications.

Table I

NUMBER OF RESPONDENTS WITH OR WITHOUT FORMAL TRAINING PROGRAMS
BY SIZE AND TYPE OF ORGANIZATION

Type of Organization	Size of Organization: Small Companies* (n = 388)	Large Companies** (n = 370)	Totals (n = 758)
With Formal Training:			
Manufacturing	141	198	339
Non-manufacturing	40	83	123
Total	181	281	462
Without Formal Training:			
Manufacturing	152	78	230
Non-manufacturing	55	11	66
Total	207	89	296
TOTALS	388	370	758

* = less than 500 employees
** = 500+ employees

Manufacturing firms in the 250-499 employment-size classification represented the largest group without formal training programs; nonmanufacturing companies with less than 250 employees were a close second. Only two of the 20 firms with more than 10,000 employees did not have formal training programs.

Size of Training Effort. Questions regarding the number of employees served and the number of instructors/planners/administrators involved in the instructional programs yielded the following results. First, the number of employees served annually by employer-sponsored instruction (excluding college coursework) was proportionate to the size of the company. Exceptions appeared in the few companies which trained more people than they employed. These were primarily franchised or subsidiary companies which extended their training programs to others in the larger corporate structure or to like companies in their geographic area.

Second, the number of persons assigned to instructional and administrative duties related to training was in most cases rather small. In the majority of companies, an average of 1 to 3 company employees (excluding on-the-job training supervisors) were responsible for instruction. Similarly, an average of 1 to 3 professionals were involved in the planning and management of instructional programs.

Third, a majority of respondents estimated that 80-100% of their company's total training was currently being done by the company itself. Slightly more than half of the manufacturing companies, three-fourths of the nonmanufacturing

companies, and more large companies than small ones selected this response.

Location of Training. Over 90% of the companies conducted their training programs on site. Additional training sites located in Ohio were identified by 62 firms. Many of these were training centers at or near corporate headquarters, usually in a large metropolis. Others identified like companies in their immediate geographic area which provided training for some or all of their employees.

Nature of Employer-Sponsored Instruction

Several questions on the survey instrument dealt with the content and format of employer-sponsored instructional programs. Business and industrial organizations in this state provide a variety of training and personal/professional development opportunities for employees at almost every level of their organizations.

Type of Training Provided. As illustrated in Table II, on-the-job training for production, office, technical, and/or skilled trades employees is the major emphasis of employer-sponsored instructional programs. Of the 462 companies with formal training programs, 90% provided on-the-job training. The second major training emphasis was on development of supervisory and mid-management personnel. Almost three-fourths of the respondents provided training specific to company methods, equipment, and practices, and preparation of professional/managerial personnel. Less than half of the companies offered apprenticeship training or personal improvement/cultural

Table II

FREQUENCY AND PERCENT OF RESPONSES: TYPES OF FORMAL TRAINING PROVIDED IN BUSINESS/INDUSTRIAL FIRMS IN OHIO BY SIZE AND TYPE OF ORGANIZATION

TYPE OF ORGANIZATION	Size of Organization: Small Companies* No.	%	Large Companies** No.	%	All Companies No.	%
Manufacturing:	(n=141)		(n=198)		(n=339)	
Professional/managerial	80	57	150	76	230	68
Upper level technical/scientific	25	18	51	26	76	22
Company methods/practices/equipment	78	55	156	79	234	69
Supervisory/mid-management	111	79	182	92	293	86
On-the-job training	132	94	181	91	313	92
Apprenticeship	62	44	116	59	178	53
Personal improvement	33	23	67	34	100	29
General/basic education	14	9	35	18	49	14
Commercial instructional programs	1	.7	2	1	3	.8
Non-manufacturing:	(n=40)		(n=83)		(n=123)	
Professional/managerial	29	73	69	83	98	80
Upper level technical/scientific	6	15	20	24	26	21
Company methods/practices/equipment	27	68	68	82	95	77
Supervisory/mid-management	34	85	77	93	111	90
On-the-job training	30	75	74	89	104	85
Apprenticeship	9	23	23	28	32	26
Personal improvement	12	30	33	40	45	37
General/basic education	2	5	7	8	9	7
Commercial instructional programs	1	2	4	4	5	4
All Companies:	(n=181)		(n=281)		(n=462)	
Professional/managerial	109	60	219	78	328	71
Upper level technical/scientific	31	17	71	25	102	22
Company methods/practices/equipment	105	58	224	80	329	71
Supervisory/mid-management	145	80	259	92	404	87
On-the-job training	162	90	255	91	417	90
Apprenticeship	71	39	139	49	210	45
Personal improvement	45	25	100	36	145	31
General/basic education	16	9	42	15	58	13
Commercial instructional programs	2	1	6	2	8	2

* = less than 500 employees
** = 500+ employees

Note: Multiple response item.

appreciation programs, while less than one-fourth provided advanced technical or scientific training. Only a small portion of firms (13%) were involved in remedial education (basic mathematics, writing, and reading) for employees who did not graduate from high school.

Training priorities differed when the responses were ranked by type and size of organization. Nonmanufacturing firms, both large and small, gave greater emphasis to supervisory/mid-management training than to on-the-job training and ranked professional/managerial preparation and personal improvement/cultural appreciation higher than did manufacturing companies. Large manufacturing companies also gave greater priority to supervisory/mid-management training, while small manufacturing companies were more similar to the composite for all companies.

Eighty-six percent of all 758 respondents reported having a fee reimbursement policy for off-the-job instruction. In the majority of companies, employees were reimbursed for fees upon successful completion of the course. Although some respondents indicated fee reimbursement stipulations in terms of employment category (e.g., salaried, or nonunion personnel only) or relationship of coursework to their jobs, over half of the companies reimbursed course fees for most employees. Three respondents indicated their policy stated that employees would not be reimbursed for coursework. There were handwritten comments on a number of responses indicating that few of their employees took advantage of the company's fee reimbursement policy.

Clientele Served. The primary clientele of almost all companies were their employees. While less than 20% of the respondents served clientele other than their own employees, two figures stood out: (1) 10% of the large manufacturing companies provided instruction for dependents of employees, and (2) 15% of the small manufacturing companies provided training for employees of other firms. Some large manufacturing companies also conducted training for the customers and users of their products. This may be an indication that the training departments in some of the firms are trying to maximize the productive use of their facilties and time by expanding their training programs to include nonemployees.

Format of Instruction. Excluding on-the-job training, the short-term workshop was the instructional format used by 88% of the responding companies. This format was used by more large companies than small ones and more nonmanufacturing than manufacturing companies. Formal classes were used by 64% of the companies.

Instructional programs were conducted on company time by 78% of the companies and scheduled on a combination of employee and company time by 57% of the companies. Instructional programs were scheduled on the employee's time by less than half of the companies.

Staff members of the company's training department were used as instructors by 90% of the respondents. Other company employees were used to staff instructional programs in more

large nonmanufacturing companies than in any other group, while outside consultants were used more frequently by large manufacturing companies than any other group. Local college faculty were contracted as instructors in company training programs in less than 40% of the companies.

Sixty-five percent of the companies reported awarding diplomas or certificates upon completion of courses, seminars, or workshops. Formal arrangements for awarding or transferring credit toward associate, baccalaureate, or graduate degrees existed in only a few companies. At the associate degree level, formal arrangements existed with six public two-year campuses, one private college, and one proprietary institution in Ohio. Formal arrangements existed with five public and six private colleges at the baccalaureate degree level and with two public and one private college at the graduate degree level, primarily for advanced degrees in engineering and business administration. Course credits approved through the American Council on Education and an external degree center in one metropolitan area were used by a number of large companies, while one corporation reported having its own "university." Some companies in Ohio reported having course-credit arrangements with universities in other states.

Additional information on the scope and nature of employer-sponsored instruction was provided in a concurrent study conducted in Ohio for the Private Industry Council. In this study, Kell (1981) examined the number of business/ industry trainees and training hours by occupational classes

(professional, managerial, technical, clerical, sales, craft, and other). He estimated that 80% of all trainees and 76% of all training hours were in firms employing more than 500 people. The training of professional and managerial personnel amounted to nearly 37% of the total training effort in Ohio, while only 15% of the training was firm-specific. Over half of the training hours were devoted to craftspersons in manufacturing companies and to management and professional personnel in nonmanufacturing companies. Training of management and supervisory personnel was of highest priority in large manufacturing companies, while the training of skilled workers was the priority in small manufacturing companies where half of their training effort was directed at remediation in basic mathematics and communication skills. Kell also found that 60% of his sample used full-time instructors, and a majority of the large companies had on-site training facilities and developed their own instructional materials. Yet, Kell's respondents identified formal education needs in the following areas: computer science, engineering, supervisory techniques, and basic reading, mathematics, and communication skills.

Toward Increased Cooperation

Survey responses did not reveal much in the way of formal cooperative arrangements between companies and colleges and universities. Cooperative arrangements or contracts to provide instructional programs for company personnel existed with 10 two-year campuses, 7 private colleges, and 5 public colleges in Ohio. These arrangements were for coursework primarily

designed for application toward baccalaureate or advance degrees in engineering or business administration. Some arrangements involved both a local two-year campus and a nearby university so that a student could complete coursework that would eventually apply toward a baccalaureate degree. Several companies had contracted special seminars on topics such as "quality circles," "stress management," and "time management."

This information by itself paints a distorted picture of the work-education relationships in Ohio. Both formal and informal work-education relationships have existed for some time through advisory committees, placement activities, and continuing education programs. For example, in the 1980-81 academic year, more than 5,000 noncredit course offerings (with more than 100,000 registrants) in skill and professional development were provided by 84 of Ohio's 115 colleges and universities (Ohio Board of Regents, 1981). Over 700 of these offerings were contracted with business and industry; 376 of them were conducted on company premises.

Employer-sponsored training programs which required formal recognition by a professional, scientific, educational, or governmental agency were primarily in the area of apprenticeship training where certification was granted through unions, the Ohio State Apprenticeship Council, or the Bureau of Apprenticeship Training, Department of Labor. Other types of certification mentioned were from associations such as the American Institute of Banking, American Institute for Certified Public Accountants, and American Management Association.

In the "comments" section of the questionnaire, a number of respondents indicated that they were involved in discussions with local college officials of ways in which they could cooperate. Many respondents indicated they were very satisfied with the relationships that had been established with their local colleges and anticipated strengthening those relationships. Some indicated that they were in the process of evaluating their entire training effort to see if there were more cost-effective ways to train and develop their employees.

One-fourth of the companies with formal training programs indicated that up to 20% of their training needs were or could be contracted to outside consultants. This percentage was higher for nonmanufacturing than for manufacturing firms and slightly higher for large companies. Ten percent of the small nonmanufacturing companies indicated that almost all of their training needs could be contracted to outside consultants.

Respondents were asked to list training needs in their company which could be discussed with a college official. Of the companies that listed training needs, some listed only one item; others listed multiple items. The responses were clustered into a master list of 39 training needs which had at least one response. Companies with formal training programs cited more training needs than those without formal training programs, except firms employing less than 250 workers. Large companies and manufacturing companies cited more training needs than small or nonmanufacturing companies. Training needs most frequently expressed were management and supervisory develop-

ment, followed by human resource development and secretarial/clerical training. These needs were more prevalent among manufacturing firms but were evenly distributed in large and small companies. Manufacturing firms also expressed a high need for entry-level engineering, machine trades, and electrical/electronic technician training. Basic skills in English and mathematics were cited more often by large than small companies.

To determine if certain training needs were more prevalent in particular areas of the state, the needs were sorted by company location into five state regions (Table III). Management and supervisory development needs were predominant in every region of the state but the northwest where training needs in other mid-level occupations (e.g., entry-level engineering, accounting, data processing, secretarial/clerical) predominated. Training needs were more diverse in the northeast and central regions than in the others. In the southeast region, few training needs outside of management/supervisory training were cited. There was a slightly higher expressed need in the central region for training of technical, trades, and crafts personnel than in the other regions. Respondents in the northeast region cited the greatest number of training needs, followed by the central, northwest, southwest, and southeast regions, in that order.

It is unclear why the patterns of training needs developed as they did. Examination of regional demographic data concerning total number of business/industrial establishments (Figure 1), large companies, survey responses received,

Table III

TRAINING NEEDS OF RESPONDENTS BY OHIO REGIONS

Training Needs	Regions				
	North-west	North-east	Central	South-west	South-east
Accounting	9	4	1	1	1
Actuarial Science	0	0	1	0	0
Apprenticeships	2	0	6	1	1
Blueprint Reading	0	4	5	2	0
Career Development	1	0	1	1	1
Ceramics	0	1	0	0	0
Computer Programming	4	3	2	0	1
Computer Production Sched.	0	1	0	0	0
Computer Service	0	1	1	0	0
Crafts - Skilled	1	0	4	0	0
Data Processing	6	3	0	0	1
Design/Drafting	5	0	3	1	0
Developmental English	0	3	3	1	0
Engineering - Chemical	2	1	0	0	0
Engineering - Entry Level	13	1	2	1	1
Human Resource Development	5	8	6	7	2
Inventory	1	1	2	0	1
Labor Relations	0	2	2	3	0
Line Foreman Training	0	1	0	0	1
Machine Trades	1	4	4	5	0
Maintenance Personnel Tr.	0	2	3	1	2
Management Development	5	16	12	15	10
Marketing	1	1	0	1	1
Mathematics	0	5	0	3	0
Polymer Science	0	1	0	0	0
Purchasing	0	1	1	0	0
Quality Circle	0	2	0	1	0
Quality Control	0	2	2	1	0
Secretarial/Clerical	11	8	4	4	0
Speed Reading	0	1	0	1	0
Supervisory Development	6	20	16	12	9
Technical Report Writing	0	4	0	1	0
Technicians - Electrical	4	3	4	3	1
Technicians - Electronic	3	3	4	3	0
Technicians - Mechanical	3	2	3	2	0
Thermoplastics	0	2	0	1	0
Tool & Die	0	0	2	2	0
Warehousing	1	1	0	0	0
Welding	0	3	1	1	0
Total	84	125	95	75	33

Northwest Region = Allen, Auglaize, Defiance, Fulton, Hancock, Hardin, Henry, Lucas, Mercer, Ottawa, Paulding, Putnam, Sandusky, Seneca, Van Wert, Williams, Wood

Northeast Region = Ashtabula, Carroll, Columbiana, Cuyahoga, Erie, Geauga, Holmes, Huron, Jefferson, Lake, Lorain, Mahoning, Medina, Portage, Stark, Summit, Trumbull, Tuscarawas, Wayne

Central Region = Ashland, Coshocton, Crawford, Delaware, Franklin, Knox, Licking, Madison, Marion, Morrow, Richland, Union, Wyandot

Southwest Region = Adams, Brown, Butler, Champaign, Clark, Clermont, Clinton, Darke, Fayette, Greene, Hamilton, Highland, Logan, Miami, Montgomery, Preble, Shelby, Warren

Southeast Region = Athens, Belmont, Fairfield, Gallia, Guernsey, Harrison, Hocking, Jackson, Lawrence, Meigs, Monroe, Morgan, Muskingum, Noble, Perry, Pickaway, Pike, Ross, Scioto, Vinton, Washington

Figure 1: Number of Business/Industrial Establishments in Ohio by County and Region.

Source: County Business Patterns, 1979, Ohio

and percentage of survey responses from manufacturing firms did not provide a definitive answer. On all of these demographic criteria, the regions ranked from highest to lowest in the following order: northeast, southwest, central, northwest, and southeast. While demographic characteristics might explain the pattern of the training needs in the northeast and southeast regions, it does not hold for the other three regions.

The number of colleges and universities already serving the five state regions and the proximity of these institutions to centers of business and industry was also examined as a possible explanation. But this factor alone does not explain the pattern of training needs. It may be that training needs diminish in areas where business and industrial organizations already enjoy a cooperative relationship with local educational institutions. This was particularly apparent in the southwest region which ranks second from the top on the four items mentioned above but is second from the bottom in terms of training needs. A majority of the respondents who commented that they were already involved in satisfactory cooperative training programs with a local college were from the southwest region. The reader is cautioned that this is speculative and is reminded that respondents were asked only to list training needs "that could be discussed with a college official." This is one area that warrants further investigation.

Summary

Formal training programs in Ohio's business and industrial firms were most prevalent in large manufacturing companies and

least prevalent in small manufacturing companies. The highest instructional priority for small manufacturers was on-the-job training, while large manufacturers and both large and small nonmanufacturers placed greater emphasis on management/supervisory training. For the most part, training was provided on site to company employees, on company time, by company instructors using a short-term workshop format.

Only a few companies cited formal arrangements with colleges and universities for the awarding or transferring of course credit or contractual agreements for training provided by colleges and universities. But a majority of companies provided tuition reimbursement for coursework taken off the job. Also, many respondents indicated training needs they would be willing to explore with a college/university official. These were primarily training needs related to mid-level occupations such as management/supervision, secretarial/clerical, entry-level engineering, accounting, and data processing. When training needs were clustered into regions of the state, some fairly distinct patterns emerged. But the reasons these patterns developed the way they did is unclear and is an area worthy of further investigation.

CONCLUSIONS AND IMPLICATIONS

The preceding pages have profiled employer-sponsored instructional programs both nationally and in Ohio. The Ohio profile is, for the most part, consistent with national patterns. Several broad, interrelated conclusions have been drawn from this study which have implications for the role Ohio's colleges and universities could and should play in the continuing education of adult workers.

First, employer-sponsored instructional programs are less pervasive than some have led us to believe. It is estimated from the findings of this study that less than 1% of all United States' firms have formal training programs for their employees. Both nationally and in Ohio, employer-sponsored instruction is most prevalent in large manufacturing firms in heavy industry, and large nonmanufacturing firms in the service industry. Yet evidence suggests that less than half of the mid-sized companies and very few of the small companies provide formal training for their employees. Further, except for the very large companies, most companies with formal training programs employ a relatively small staff to provide in-house training. Much of the off-the-job training is contracted to other educational vendors. This implies that a substantial need exists for continued educational and professional development of the adult workforce.

To help meet this need, colleges and universities could focus outreach efforts on two target groups. The first group

includes the vast number of small companies which do not have formal training programs. By clustering employees from several small companies who have similar training needs, a cost-effective training program could be established. The second group includes large companies which have formal training programs. In most cases, the commitment to training and education of their employees is strong and they have a variety of instructional needs which could be contracted to outside agencies. The strong emphasis on training for management, supervision, and other mid-level occupations, for example, increases the likelihood that companies will seek training assistance from their local colleges and universities.

Second, employer-sponsored instruction is provided to a rather small segment of the total adult workforce. Even the best estimates one could make based on the information provided, is that formal training (excluding on-the-job training) is provided for less than 20% of the total adult workforce in the United States, including training provided by unions and trade and professional organizations. Most of these workers are in management, supervision, or other mid-level occupations, and are provided the opportunity through off-the-job courses and tuition assistance plans to upgrade their skills for promotion or career changes. On-the-job training, which is the most prevalent type of employer-sponsored instruction both nationally and in Ohio, typically involves peer training oriented to specific machines, processes or procedures used on a particular job.

There is a substantial population of adults in the workforce not presently being served. Ohio's colleges and universities could target outreach efforts to two major groups of employees revealed by the findings of this study. The first group includes the large portion of the workforce which has limited access to formal training and development opportunities. These are the unskilled and semiskilled adult workers who need to develop basic skills in order to acquire and/or retain a job. They are the people most often furloughed or unemployed, displaced by computers and robots. Without transferable skills, they have no place to go. And they are apt to be the least knowledgeable in terms of career options and means to gain access to training programs. Although many of these workers may have received on-the-job training, they have generally had little opportunity for occupational counseling and retraining that would allow them to upgrade their skills in accordance with the rapidly changing technology. Business and industry as well as higher education institutions have been less responsive to the needs of this group than any other group of employees.

Many of the adults in this group need to develop successful work attitudes and habits as well as job skills, and many of their training needs cannot be met through traditional college course and degree configurations. Perhaps more non-traditional means will have to be used to identify and train these workers for job openings in their local community or for relocation to other geographical areas where their skills can

be used. Many of Ohio's colleges have skill assessment, counseling, remediation, and training programs that could be adapted and transported to company sites for greater access by those who need these services.

The second group includes employees who need to develop skills that would allow them to be upwardly mobile in their company, particularly women and minorities. Most people in this group have access to tuition assistance plans that would minimize their educational expenses. If credit and noncredit offerings were more accessible to the employees, and if information on course offerings was more readily available to them, they may be more apt to take advantage of tuition assistance plans. The training needs of this group will more likely be met through traditional college courses, seminars, and workshops.

Third, many companies are meeting only a small portion of their human resource development needs through their own instructional programs. Most firms have designed their instructional programs to meet company needs related to productivity, worker satisfaction, and social and legal concerns. The findings of this study revealed that in general, companies have expressed the need to:

- be on the cutting edge of new technology;
- provide entry-level access as well as promotional opportunities for women and minorities;
- provide remediation and/or retraining to hedge against job displacement;
- retrain and upgrade employees for high technology;
- train for management and supervision and other mid-level occupations;

- provide human resource development opportunities that would result in increased productivity and worker satisfaction;

through instructional programs that:

- are cost effective;
- have measurable results;
- are linked to overall corporate planning;
- are individualized to employee needs;
- can be conducted on site, on company time, preferably in a workshop format.

Companies have both short- and long-term training needs, many of which are predictable. For example, in companies where management by objectives or similar contractual arrangements are made between workers and management, skill development needs are identified early and included in overall corporate planning. Similarly, most companies have some lead time before plant shutdowns when those employees scheduled for furlough could be assisted in skill assessment, career counseling, retraining, and job searches. Yet these needs have not always been communicated beyond the executive suite.

The findings of this study indicated that several respondents were in the process of reassessing their entire training program. A tight economy has forced them to examine the cost effectiveness of their own programs and take a second look at existing training programs in their local communities. They found that they could not meet many of the needs cited above through their own programs and were contracting much of the necessary training to outside consultants or encouraging employees to upgrade their skills by using tuition assistance plans.

If college and university personnel worked more closely with business and industry representatives, predictable needs could be included in their long-range planning as well, and there would be fewer occasions when support would have to be rallied for last-minute training requests.

Fourth, colleges and companies often work at cross purposes toward similar training and education objectives. This is due largely to barriers created by perceived differences in goals, attitudes, training methods, and organizational/ operational procedures. These barriers have been sustained over time through a lack of communication and understanding regarding the capabilities of both organizations to serve the continuing education needs of adult workers.

Problems of definition and perception exist between colleges and companies as well as within each of these organizations. Although attempts were made to minimize these problems in the Ohio study, the response patterns indicated that training directors and chief executives may perceive employer-sponsored instruction differently. Evidence showed this to be particularly true in the responses to those questions seeking information on training needs and the nature and extent of existing cooperative arrangements with Ohio's colleges and universities. Information from Ohio's colleges and universities, on the other hand, indicated that considerable in-house training has been provided throughout the state for business and industry. But this information was not reflected in business/industry responses. Thus, it is apparent that different understandings

of training needs and the training process exist within companies themselves.

In a similar vein, education providers are coming under increased criticism because they are independently conducting and needlessly duplicating a variety of surveys and needs assessments. This is perceived by business and industry executives to be a serious problem. Lack of collaboration among educational providers is becoming a deterrent to successful linkages between colleges and companies.

Clarification of perceptions and attempts to remove barriers would be best accomplished in local communities. College and university leaders should take the initiative to improve their understanding of business/industry needs through direct contact with local employers. They should also encourage collaboration among all providers of educational services in that community. At the same time, they should take every opportunity to help company leaders understand their college's capacity for service as well as the impact of these services on the local economy. Communications could be strengthened through the inclusion of success stories in TV news spots, local newspapers and other publications, and by targeting specialized bulletins or newsletters particularly to business and industry. It is only through increased cooperation that the needs of adult workers will be met.

Finally, Ohio's colleges and universities can play a more significant role in the retraining and upgrading of the adult workforce. Historically, business and industry assumed the primary role in on-the-job training for employees. This is not

likely to change. But companies have contracted much of their off-the-job training to other agencies. There is no apparent reason why a company could not contract that portion of their training program to local colleges and universities, if they were well informed of the expertise the college could provide in meeting their training needs.

At the turn of the century when corporate-sponsored training began, colleges and universities were unprepared to meet the training needs of business and industry. This is no longer the case. Most colleges and universities have faculty expertise in almost any area of business/industry need. There is very little evidence to support the theory that companies continue to do their own training because they are dissatisfied with or lack confidence in the traditional education system. To the contrary, many employers have expressed a willingness to work cooperatively with college and university personnel to their mutual benefit.

Ohio's colleges and universities already provide a variety of credit and noncredit continuing education and regular degree programs targeted to business/industry needs. There is room for expansion of these linkages. This is not to say that every college must attempt to meet business/industry needs that are beyond their fiscal or programmatic scope. Rather, through collaborative efforts education providers can determine among themselves how best to match their collective resources to the needs of the local employers.

A common thread woven throughout the findings is the need for cooperation. Training of the workforce is the

foundation for a vital, productive economy. Problems inherent in chronic unemployment and rapidly changing technology are too complex to be resolved by educational institutions or business/industrial organizations alone.

Cooperative relationships between colleges/universities and business/industry could be strengthened through the use of existing structures and programs by: (1) responding to company needs as they are expressed, and/or (2) reaching out to business and industry to assist where possible with their training needs. This study revealed that companies have expressed a need for training in mid-level occupations, many of which require some form of certification, licensing, or degree credit courses. Through management by objectives and similar contracts, and through tuition assistance plans, companies have provided both the incentive and the financial means for employees to upgrade their skills. At the same time, companies have the newest high technology equipment which many colleges are unable to acquire because of limited funds. Through cooperative arrangements, company facilities might serve as training laboratories for updating faculty and training potential employees for the company. There are a variety of benefits to be gained through cooperative work-education relationships. The possibilities for creative cooperative arrangements are limited only by the imagination and the strength of commitment of the leadership of colleges and companies. In the following pages, suggestions are made of ways in which work-education relationships in Ohio might be strengthened.

STRENGTHENING WORK-EDUCATION RELATIONSHIPS

Training Ohio's workforce involves a variety of organizations on both sides of the supply-demand equation. Many of these organizations have overlapping purposes and objectives which have resulted in duplication of effort on the one hand and gaps in service on the other. The Ohio Board of Regents addressed this problem in the 1981 Master Plan for Higher Education which sets the course of Ohio higher education for the next five years. In the Master Plan the Board placed particular emphasis on the development of a "new social compact" between higher education and the larger society "to promote advancement of the quality of life in Ohio." Underlying this new compact is the identification of areas in which the state's needs and higher education's strengths in instruction, research and service intersect. To that end, the Master Plan has been developed around four broad issues:

- access to higher education;
- cost effectiveness of the higher education system;
- quality of programs; and
- cooperation with other organizations toward the improvement of Ohio's economy.

A major thrust of the new social compact is the relationship between institutions of work and education. Concurrent to the drafting of the Master Plan, the Board conducted a number of exploratory activities to assess ways in which these relationships could be strengthened. This study of employer-sponsored instruction was part of that overall assessment.

Relationships between institutions of work and education are cultivated and strengthened at many levels through mutual cooperation and collaboration. Instructional linkages are only one part of the overall work-education relationship and are the focus of this discussion.

The Ohio Board of Regents in its Master Plan emphasized that plans for the development of instructional linkages with business, industry, and government "seem most clearly areas for local or regional solutions." Ohio's colleges and universities have for a long time been tied to other sectors of society through board members, curriculum advisory committees, cooperative education programs, and placement offices. Many of these linkages, however, have been in relation to instructional programs designed to provide entry level workers. Instructional linkages for the continued training and development of the adult workforce have not always received the same level of organizational commitment. Thus, the following suggestions will pertain more to the latter than to the former.

Ohio's colleges and universities are at varying stages in the development of work-education relationships, linking their instructional resources to business/industry needs. In most cases these linkages can be strengthened and expanded. Fundamental to the work-education relationship is cooperation, where each party to the linkage process is truly an equal partner.

Tne first step to strengthening the linkage process involves looking inward, evaluating not only curriculum and instruction but

also institutional commitment, faculty/staff attitudes, and organizational procedures. This evaluation should result in a determination of institutional strengths and weaknesses as well as identification of unused capabilities. Where appropriate, business and industry representatives and students should be involved in the evaluation process.

The second step involves a sharpening of institutional focus and commitment. Goals and objectives need to be clarified and linkage strategies developed which will capitalize on institutional strengths, improve upon weaknesses, and develop unused capabilities. One key to successful linkages with business and industry is institutional commitment--from the top down. College and university leaders need to assume an active role in economic development activities in their local community to have their fingers on the pulse of changes in technology and resulting manpower needs. Strength of commitment should be reflected in goals and objectives of the institution as well as in the creation of normative structures which reward faculty for service to business and industry.

The third step to strengthening the linkage process involves examination of the relationship between the college and the company. Evaluative consideration should be given to access, quality, and cost effectiveness of instructional programs as well as to the quality of the cooperative relationship itself.

Access. One of the barriers to college/company cooperation cited earlier in this report was access to instructional programs

tailored more specifically to the needs of business and industry. Inability to gain initial access to the college as well as inflexible college operating procedures and standardized curriculum and teaching methods were the most frequently cited problems. It is often the case that a company executive has identified a training need and then contacted a local college faculty member directly. This procedure has advantages in the sense that it puts individual faculty members in close contact with the needs of business and industry. But it also has disadvantages to those employers who are less able to articulate their needs or are unable to identify a faculty member to contact. One way to provide greater access would be to assign a person or office the responsibility to receive all incoming inquiries from business and industry, providing a central point of access where college resources could be matched with business/industry needs. This is already done in some colleges through their continuing education office and in others through the campus agents of the Ohio Technology Transfer Organization.

Many of the training needs of business and industry do not fit the patterns of traditional on-campus programs. Thus, flexibility and adaptability might serve as guiding principles in providing greater access to instructional programs. The following are just a few illustrations:

- advertise course offerings in company bulletins or special publications targeted directly to business/industry;
- where possible, provide skill assessment and career counseling services at the company site;
- streamline admissions, registration and course scheduling procedures so that employee time away from the job is minimized;

- take courses into the company or to a location central to several companies;
- provide instruction on cable TV or video cassettes which could be used between shifts, on lunch breaks, etc.
- plan strategies that reduce the lag time between a company's initial training request and college response.

It goes without saying that these considerations should be made in close cooperation with company executives.

Quality. A common criticism from business and industry is that academics think they know best what the worker needs and that too often a training need is met by prescribing an existing course. The desire to meet business and industry training needs should not be at the expense of quality instructional programs. In this case, one measure of quality is whether the worker can perform better on the job as a result of the training provided. "Less theory, more practice" is a common plea of business/industry personnel. Thus, course objectives and methods of evaluation should be built into instructional programs and curriculum should be planned in cooperation with business/industry representatives.

Another measure of quality is the currency of faculty and curriculum to the latest technologies of business and industry. Curriculum advisory committees have been a valuable resource in this area. Another way to insure up-to-date faculty would be to make arrangements for short-term "externships" or faculty/staff exchanges with business and industry personnel. In addition to providing on-line experience for faculty this would help company personnel understand the college better.

Cost effectiveness. Many of the needs of business and industry can be met through adaptation of existing structures and programs. Rather than extending college services beyond fiscal and programmatic means, emphasis should be placed on existing institutional strengths. This would in some cases involve the pooling of college and company resources, especially when expensive high technology equipment is involved.

One way to achieve greater cost effectiveness would be to collaborate with other organizations on a community or regional basis. This would require some kind of coordinative structure that would serve as a forum for discussion and sharing of information and ideas. Through regularized meetings which bring together educational providers and users, manpower and training needs could be articulated and a focused approach to meeting those needs could be developed through collaboration. In many Ohio communities the framework for such a forum already exists.

One model of collaboration exists in Ohio's 23 regional Job Training Consortia whose staff are housed in area Chambers of Commerce. The consortia are funded in part from the Governor's discretionary CETA funds, are coordinated by the Ohio Department of Community and Economic Development, and are designed to be brokers of job training programs and services of public colleges and universities and public vocational schools in the service area.

Other types of collaborative groups have been established in some areas of the state which bring together representatives from public and private colleges and universities, proprietary

schools, vocational schools, Private Industry Council, CETA prime sponsors, American Society for Training and Development, Chamber of Commerce, federal and state employment service agencies, Ohio Technology Transfer Organization, Job Training Consortium, business, industry, organized labor, and others. There are at least three models of this type of collaboration currently in differing stages of development in Ohio. The most highly developed model is the Central Ohio Work and Learning Council whose membership is composed of top level representatives of business, education, government, and labor in the greater Columbus area. The council grew out of a need expressed at a regional linkage conference to improve the communication and cooperation between and among providers and users of educational services. The objectives of the council are to collect and exchange information, explore ways to eliminate unnecessary duplication, and explore areas where new cooperative efforts can be developed. The underlying purpose of the council is to assist businesses in better utlizing the educational resources available in the central Ohio area.

A second model is developing out of the Muskingum Area Business and Industry Training, Research and Assistance Cooperative Extension Service (TRACES), which brings together representatives of educational institutions, chambers of commerce, state agencies, and other organizations in Guernsey, Muskingum, Noble, Belmont, Harrison, and northern Perry counties. The purpose of TRACES is to coordinate the education, training, and technology transfer services provided to business, industry, government and other

agencies in the six-county area in order to "promote economic stability and growth in the area." In this case, the providers of educational services are attempting to coordinate resources among themselves before reaching out to business and industry.

A third model is in the early stages of development. The Dayton-Miami Valley Consortium has appointed a study committee to gather data and investigate the feasibility of developing a work-and-learning type structure in the Dayton area.

These types of structures provide a foundation for the expansion of college and company linkages through outreach activities. Before outreach activities are pursued, however, it is very important that colleges have their own internal affairs in order. Much of what has been said up to this point applies to outreach activities as well as existing linkages. Outreach activities should be carefully planned with adequate coordination at a fairly high administrative level within the college and a strong commitment in terms of attitudes and resources should exist throughout the college. Where possible, the training needs of local employers should be included in the college's long-range planning. Many of the needs pointed out in the conclusions of this report could be targeted for expanded outreach efforts, such as:

- small companies without training programs and large companies who contract much of their training to outside agencies;
- unskilled and semiskilled workers who need skill assessment, career counseling, remediation, and training to prevent job displacement;
- workers who have access to tuition assistance plans and need to develop skills for promotion and career changes;

- human resource development and organizational design assistance that would help companies improve productivity and worker satisfaction.

In most cases, Ohio's colleges and universities have the capacity to meet these needs and should take every opportunity to make their expertise known to local employers.

Where appropriate, the Ohio Board of Regents and its staff can assist in the development of regional/local instructional linkages. This can be done in several ways. First, by continuing its relationships with state departments, and state-level agencies and associations, the Board can insure that higher education is a full partner to the state's economic development process. The Board can act as a conduit through which information is provided and needs are articulated from other state-level organizations to the higher education system. Likewise, the Board can propose legislation and seek external funding to assist Ohio's higher education institutions as they attempt to improve linkage activities at the local level.

Second, the Board can serve as a clearinghouse for information related to linkage activities. Again, this would involve a two-way communication process. On the one hand, the Board can take every available opportunity, through written publications and personal contacts, to make the capabilities of the higher education system known to the Ohio General Assembly and leaders of state-level agencies, and trade and professional organizations. On the other hand, the Board receives published literature as well as other information on linkage activities across Ohio and from other states which can be disseminated more widely.

Finally, the Ohio Board of Regents can encourage other state agencies and associations to infuse an attitude of collaboration and cooperation into their regional and local memberships. In the same vein, the Board can provide some staff resources to help strengthen or create regional or local structures which would serve as a forum for the sharing of information and ideas.

A strong commitment from the Ohio Board of Regents and Ohio's higher education institutions to provide greater access to educational services is an important step to improving the productive capacity of Ohio's workforce. By forging a new social compact with business and industry, Ohio's higher education system can play a more significant role in the economic development of the state.

NOTES

1. The focus of this study is on instructional programs which are sponsored by employers; more specifically, employer-sponsored instruction in business and industrial firms. Employer-sponsored instruction is just one component of "noncollegiate" instruction conducted by organizations not considered part of the traditional education system. Noncollegiate instruction is typically provided by trade and professional associations, consulting firms, corporations, labor organizations, and community service organizations. Training/education is typically not a primary mission of these organizations.

   The main function of employer-sponsored instruction is "to adapt previously acquired general knowledge and skills to the needs of the job" (Smith, 1980, p. 13).

2. See also Smith, 1980; Goldstein, 1980; Fraser, 1980. A comprehensive national study of noncollegiate instruction is currently being conducted at the University of Pennsylvania under contract with the National Institute of Education.

3. Ohio's unemployment averaged 9.5% for 1981, as reported by the Ohio Bureau of Employment Services.

4. Statistical data is on file at the Ohio Board of Regents office.

5. The Small Business Administration defines a small company as one employing less than 500 workers.

6. Hospitals and governmental agencies were not included in this study.

REFERENCES

"A Survey of Non-Institutionally Sponsored Instruction in the State of Nebraska," Nebraska Coordinating Commission for Postsecondary Education, May 1981.

Anderson, Susan Saiter, "Hamburger University Offers a Break," New York Times Magazine, August 30, 1981, pp. 27-28.

Barton, Paul E. Worklife Transitions: The Adult Learning Connection. McGraw-Hill, 1981.

Battelle Memorial Institute, "The Identification of Potential High Technology Activities for the Great Lakes States," working paper prepared for the Columbus Area Chamber of Commerce by Battelle Columbus Laboratories, April 5, 1981 (mimeo).

Bline, Thomas R., David E. Calhoun, Robert D. Klingensmith, "The Status of Manufacturing in Licking County, Ohio," prepared for the Licking County Overall Economic Development Committee, May 1981.

Branscomb, Lewis M. and Paul C. Gilmore, "Education in Private Industry," Daedalus, Winter 1975, pp. 222-233.

Brickell, Henry M. and Carol B. Aslanian, "The Colleges and Business Competition," New York Times Magazine, August 30, 1981, p. 37.

Bridge, Peter G., "Externships: Two-Way Street," Community and Junior College Journal, September 1980, pp. 35-38.

Charner, Ivan, "Investing in Your Employees' Future," Training and Development Journal, May 1980.

Clark, Harold F. and Joe C. Davis, "Training in Business and Industry," in Merle E. Strong (Ed.), Developing the Nation's Workforce, Yearbook 5. Washington, D.C.: American Vocational Association, 1975.

Clark, Harold F. and Harold S. Stone. Classrooms in the Factories: An Account of Educational Activities Conducted by American Industry. Rutherford, NJ: Fairleigh Dickinson University, 1958.

Dobyns, Lloyd, "America Works When America Works," NBC White Paper, 1981.

Eppley, George, "Workforce: Ready Market," Community and Junior College Journal, September 1980, pp. 7-11.

Fraser, Bryna Shore. The Structure of Adult Learning; Education and Training Opportunities in the United States. Washington, D.C.: National Institute for Work and Learning, 1980.

Gilbert, Thomas F., "Training: The $100 Billion Opportunity," Training and Development Journal, November 1976, pp. 3-8.

Goldstein, Harold. Training and Education by Industry. Washington, D.C.: National Institute for Work and Learning, 1980.

Gorisek, Sue, "Ohio's Top 50 Companies," Ohio Magazine, January, 1982, pp. 19+.

Harris, Norman C. and John F. Grede. Career Education in Colleges. San Francisco: Jossey-Bass Publishers, Inc., 1977.

Hodgkinson, Harold, "Improving Education and Work Linkages," Training and Development Journal, July 1976, pp. 40-51.

Kell, Merle, "Employer Sponsored Training in Ohio," Center for Human Resource Research, The Ohio State University, 1981.

Lapin, Joel D., "Linkages Between Publicly Funded Community Colleges and CETA Prime Sponsors: Exemplary Organizational and Programmatic Models." Catonsville, MD: CETA/Community College Interface Research Project, Catonsville Community College, 1981.

L'Esperance, Wilford L., "The Impact of Research and Development Expenditures on the Economy of Ohio," Ohio Development Financing Commission, Columbus, Ohio, August 1980.

Lorain County Regional Planning Commission, "Opportunities for the Structurally Unemployed," 1980.

Lusterman, Seymour. Education in Industry: A Research Report. New York: Conference Board, Inc., 1977.

Lynton, Ernest A., "The Role of Colleges and Universities in Corporate Education," University of Massachusetts Center for Studies in Policy and the Public Interest, 1980 (mimeo).

Maeroff, Gene I., "Business is Cutting Into the Market," New York Times Magazine, August 30, 1981, p. 1+.

Minshall, Charles W., "Report on Attracting Research and Development Activities to the Great Lakes States," Battelle Columbus Laboratories, July 15, 1980.

National Report for Training and Development, Vol. 7, No. 3, February 6, 1981.

"New Alliances for Higher Education: Two Views," Educational Record, Spring 1980.

Noble, Kenneth B., "The Corporate Halls of Ivy Grow," New York Times Magazine, August 30, 1981, p. 21.

Ohio Board of Regents, Basic Data Series: Ohio Higher Education System, 1981.

Ohio Board of Regents, A Report on Noncredit Continuing Education Activities in Ohio, 1980-81.

"Outreach Report--The People Bridge," The University of Akron, Spring 1981.

Peterfreund, Stanley, "Education in Industry--Today and in the Future," Training and Development Journal, May 1976, pp. 30-40.

Peterson, Richard E. Lifelong Learning in America: An Overview of Current Practices, Available Resources and Future Prospects. San Francisco: Jossey-Bass, Inc., 1979.

Phi Delta Kappan, Vol. 61, No. 5, January 1980 - entire issue devoted to "Education/Training in Business and Industry."

Planning Together: A Guide for CETA and Education Planners. St. Paul, MN: The Minnesota CETA-Education Task Force, 1979.

Pollack, Andrew, "I.B.M.: A Giant Among Giants in the Classroom as Well, New York Times Magazine, August 30, 1981, p. 21+.

Reckhart, Mitchell, "Survey of Labor and Training Needs of Major Industries in the Lakeland Community College Service Area," Human Resource Development Center, Lakeland Community College, 1981.

Reed, Sally, "The Basic Skills, Company Style," New York Times Magazine, August 30, 1981, p. 20.

Rinehart, Dana G. and Sandra Fisanick. Ohio in the 21st Century. Columbus, OH: Lawhead Press, 1981.

Settle, Theodore J., "Interaction Between the Corporation and the University," NCR Corporation, Dayton, Ohio, March 1981 (mimeo).

Smith, G. B. Employer-Sponsored Recurrent Education. Palo Alto, CA: Stanford University Institute for Research on Educational Finance and Governance, November 1980.

Stewart, Charles D. Worklife Education and Training and the Ordeal of Change. Washington, D.C.: National Institute for Work and Learning, 1980.

Strobach, Stephen K., "Business and Postsecondary Education Linkages," Training and Development Journal, December 1976, pp. 8-11.

U.S. Department of Commerce, Bureau of the Census. County Business Patterns 1979 Ohio. Washington, D.C.: U.S. Government Printing Office (CBP 79-37), July 1981.

"U.S. Education for Industry: Not So Good," Industrial Research and Development, December 1980.

Warmbrod, Catharine P., Jon J. Persavich and David L'Angelle. Sharing Resources: Postsecondary Education and Industry Cooperation. The National Center for Research in Vocational Education, The Ohio State University, 1981.

Weinstein, Laurence, "Employer as a Sponsor," in Richard E. Anderson (ed.), The Costs and Financing of Adult and Continuing Education. NY: Teachers College, Columbia University, 1981.

Wellisz, Christopher, "Students Who Bank on What They Learn," New York Times Magazine, August 30, 1981, pp. 13-14.

Wellman, Fred L., Harry G. Miller and John Forbes, "Attracting New Industry," Community and Junior College Journal, October 1979, pp. 26-30.

Wilson, James W. Models for Collaboration: Developing Work-Education Ties. Washington, D.C.: American Society for Training and Development, 1980.

Yarrington, Roger (Ed.). Employee Training for Productivity. Washington, D.C.: American Association of Community/Junior Colleges, 1981.

OHIO
BOARD
OF
REGENTS

Richard L. Krabach, Chairman
N. Victor Goodman, Vice Chairman
C. William Swank, Secretary
John W. E. Bowen
Michael F. Colley
Robert L. Evans
Helen H. James
Keith McNamara
Everett Ware Smith
Oakley C. Collins, Ex-Officio
Thomas C. Sawyer, Ex-Officio

Edward Q. Moulton, Chancellor

Total copies printed: 500
Unit cost: $ 7479
Publication date: 4/82
(Excludes paper costs)

84